

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A disc drive ~~apparatus for creating~~ generating a tracking error signal ~~from reflected light resulting from the reflection of a laser beam as one-~~ beam irradiated onto an optical disc, comprising:

a disc type information controller ~~first acquisition means for acquiring first-~~ information ~~as information of~~ determining a type of the optical disc;

a disc drive mode controller ~~second acquisition means for acquiring-~~ second information ~~showing that the optical~~ determining whether the disc is operated in any of data drive is operating in write mode and data or in read mode ~~to the optical disc;~~

a radio frequency (RF) signal detector ~~detection means for detecting~~ whether information is recorded on the optical disc based on the presence or absence of an RF (Radio-Frequency) signal ~~from in~~ the reflected light laser beam;

a memory storing error signal tracking coefficients;

a tracking error signal coefficient controller ~~configured to third acquisition-~~ means ~~for acquiring, when the RF signal in the reflected laser beam appears or~~ disappears, third information, ~~which shows the presence or absence of the RF signal-~~ detected by the detection means, ~~changes, one~~ select from the memory a tracking error signal coefficient ~~from~~ corresponding to the disc type, the mode of operation of the disc drive, and the presence or absence of the RF signal in the reflected laser beam a plurality of predetermined coefficients ~~to calculate the tracking signal stored in a storage~~

unit based on the first information, the second information, and the third information;
and

~~a processor arithmetic operation means for calculating generating the tracking error signal based on the a detected intensity of the reflected light laser beam and on the selected tracking error signal coefficient acquired by the third acquisition means.~~

2. (Currently amended) A disc drive apparatus according to claim 1, wherein;

~~when the first information disc type or the second information disc drive operating mode changes, the third acquisition means acquires tracking error signal coefficient controller selects one tracking error signal coefficient from a plurality of the coefficients stored in the storage unit the memory based on the first information disc type, the second information disc drive operating mode, and the third information presence or absence of the RF signal in the reflected laser beam; and~~

~~the arithmetic operation means calculates processor generates the tracking error signal based on the intensity of the reflected light and on the tracking error signal coefficient acquired by the third acquisition means.~~

3. (Currently amended) A disc drive apparatus according to claim 1, wherein the first acquisition means acquires the first information that shows any of a disc type includes DVD-R (Digital Versatile Disk Specifications for Recordable Disc), a DVD-RW (DVD Specifications for Re-recordable Disc), a DVD+R (DVD Specifications for

+Recordable Disc), or a DVD+RW (DVD Specifications for +ReWritable Disc) ~~as the type of the optical disc.~~

4. (Currently amended) A ~~disc drive method performed by~~ driving a disc drive apparatus for creating a tracking error signal from ~~reflected light resulting from the reflection of~~ a laser beam ~~as one beam~~ irradiated onto an optical disc, ~~the method~~ comprising:

~~a first acquisition step of acquiring first information as information of determining~~ a type of the optical disc;

~~a second acquisition step of acquiring second information showing that the optical determining whether the disc drive is operated in any of data operating in~~ write mode ~~and data or in~~ read mode ~~to the optical disc;~~

~~a detection step of detecting whether information is recorded on the optical disc based on the presence or absence of a~~ an radio-frequency (RF) signal from in the reflected light laser beam;

~~a third acquisition step of acquiring, when the RF signal in the reflected laser beam appears or disappears, third information, which shows the presence or absence of the RF signal detected by the detection means, changes, one selecting from memory a tracking error signal coefficient corresponding to the disc type, the mode of operation of the disc drive, and the presence or absence of the RF signal in the reflected laser beam from a plurality of predetermined coefficients to calculate the tracking signal stored in a storage unit based on the first information, the second information, and the third information; and~~

~~an arithmetic operation step of calculating~~ generating the tracking error signal based on ~~the a detected~~ intensity of the reflected ~~light laser beam~~ and on the selected tracking error signal coefficient ~~acquired by the third acquisition means.~~

5. (Currently amended) A recording computer-readable storage medium storing ~~in which a computer readable disc drive~~ a computer program which, when executed by a disc drive, causes the disc drive to perform a method for generating ~~is recorded to-~~ create a tracking error signal from ~~reflected light resulting from~~ the reflection of a laser beam ~~as one beam~~ irradiated onto an optical disc, ~~wherein the program comprises the~~ method comprising:

a first acquisition step of acquiring first information as information of
determining a type of the optical disc;

a second acquisition step of acquiring second information showing that the
optical determining whether the disc drive is operated in any of data operating in write,
mode and data or in read mode to the optical disc;

a detection step of detecting whether information is recorded on the
optical disc based on the presence or absence of a an radio-frequency (RF) signal from
in the reflected light laser beam;

a third acquisition step of acquiring, when the RF signal in the reflected
laser beam appears or disappears, third information, which shows the presence or-
absence of the RF signal detected by the detection means, changes, one selecting from
memory a tracking error signal coefficient corresponding to the disc type, the mode of
operation of the disc drive, and the presence or absence of the RF signal in the

~~reflected laser beam from a plurality of predetermined coefficients to calculate the tracking signal stored in a storage unit based on the first information, the second information, and the third information; and~~

~~an arithmetic operation step of calculating generating the tracking error signal based on the a detected intensity of the reflected light laser beam and on the selected tracking error signal coefficient acquired by the third acquisition means.~~

6. (Canceled)

7. (New) A disc drive according to claim 1, wherein the processor generates the tracking error signal based further on a difference between the intensity of the reflected laser beam at first and second locations and on the tracking error signal coefficient multiplied by the difference.

8. (New) A method according to claim 4, wherein the tracking error signal is generated based further on a difference between the intensity of the reflected laser beam at first and second locations and on the tracking error signal coefficient multiplied by the difference.

9. (New) A computer-readable storage medium according to claim 5, wherein the tracking error signal is generated based further on a difference between the intensity of the reflected laser beam at first and second locations and on the tracking error signal coefficient multiplied by the difference.